Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte FREDERIC CHIQUET,
MARYLISE LE THUAUT,
JEAN-JACQUES GIRARD
and PASCAL BANIEL

_____

Appeal No. 2002-2101
Application No. 09/068,540

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ON BRIEF

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Before GARRIS, LIEBERMAN and PAWLIKOWSKI, Administrative Patent Judges.

PAWLIKOWSKI, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 6, 8, and 12 through 14. Claims 1 through 5, 7, and 9 through 11 have been withdrawn from consideration, and claims 15 through 19 have been canceled.[1]

[1] On page 1 of the brief, appellants state that claims 1-5, 7, and 9-11 may be subject to rejoinder under MPEP 821.04 if one or more claims 6, 8, and 12-14 is found allowable. Upon return of this case to the jurisdiction of the examiner, we instruct the examiner to make a determination on this issue.

Claims 6 and 8 are set forth below as illustrative of the claims on appeal:

6. A monomode optical fiber made by a method comprising the steps of:

providing a preform made of fluoride glass and comprising a mother preform housed in an outer tube and leaving an empty volume between an outside surface of the mother preform and an inside surface of the outer tube, characterized in that an intermediate tube is inserted in said empty volume, the intermediate tube being of a material possessing viscosity at a fiber-drawing temperature which is less than the viscosity(ies) at said fiber-drawing temperature of said mother preform and of said outer tube; and

drawing an optical fiber from said preform while retaining the material of said intermediate tube as an integral portion of said monomode optical fiber.

8. A doped monomode optical fiber made by a method comprising the steps of:

providing a preform made of fluoride glass and comprising a mother preform housed in an outer tube and leaving an empty volume between an outside surface of the mother preform and an inside surface of the outer tube, characterized in that an intermediate tube is inserted in said empty volume, the intermediate tube being of a material possessing viscosity at a fiber-drawing temperature which is less than the viscosity(ies) at said fiber-drawing temperature of said mother preform and of said outer tube, and said mother preform having a core zone doped with rare earth ions; and

drawing an optical fiber from said preform to form said monomode optical fiber while retaining a material of said intermediate tube as an integral portion of said monomode optical fiber.

The examiner relies upon the following reference as evidence of unpatentability:

Shiraishi et al. (Shiraishi) 3,877,912 Apr. 15, 1975

Claims 6, 8, and 12 through 14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Shiraishi.

For the reasons set forth below, we **reverse** the rejection.

OPINION

On pages 3 through 5 of the answer, the examiner asserts that because the claims are product-by-process claims, it is the product itself which must be new and unobvious. In this context, the examiner states that "claim 8 has only one explicit structural limitation for the fiber, that is, it retains a material of the intermediate tube (see the last line of claim 8)." The examiner states that "the claim does not explicitly require any other material be in the fiber."

On the other hand, appellants argue that the claims require that the fiber include a material having certain viscosity characteristics, and that the examiner has cited no prior art that teaches this aspect of the invention. (reply brief, pages 3-4).

Hence, the single issue on this appeal is whether the claims require a material having certain viscosity characteristics. If so, we agree with appellants that Shiraishi does not disclose this aspect of the invention. Our determinations are made below.

I. Claim interpretation and the Anticipation Rejection

According to appellants' invention, it is not necessary to apply as high a fiber-drawing temperature as in the prior art for the purpose of filling empty volumes 23 (depicted in Figure 2). This provides for less eccentricity and less deformation of the core of fiber product. See page 7, lines 25-29 of appellants' specification. This is achieved by selecting a material (as the intermediate tube) that has a particular viscosity value. More particularly, the intermediate tube is inserted in the empty volume and the intermediate tube possesses a viscosity at fiber drawing temperature which is less than the viscosities at fiber drawing temperature of the mother preform and of the outer tube. See page 7, lines 19-25.

Upon heating, intermediate tube 21 softens, thereby filling the empty volumes and the material constituting the intermediate tube is intended to become an integral portion of the fiber. See page 6, lines 31- through page 7, line 18.

In view of the aforementioned disclosure found in appellants' specification, we determine that the specification specifically supports that the material constituting the intermediate tube 21 becomes an integral portion of the resulting optical fiber F, as depicted in Figure 3, and as explicitly disclosed on page 7 at lines 16 through 18 of appellants' specification.

We therefore agree with appellants' remarks set forth on pages 1 through 2 of the reply brief. Specifically, the intermediate tube is retained as an integral portion of the fiber after drawing.

We further note that claims 6 and 8 each requires that the material that constitutes the intermediate tube is limited to a

particular, relative, selected viscosity because such a viscosity existed in the preform stage of the invention. This selected material, which is retained in the final fiber product, must have had the here claimed viscosity found in its preform stage. This is the essence of appellants' invention.

Therefore, in our opinion, the claim requires that the material is limited to a particular viscosity as it existed in its preform stage. This condition, even though it is defined in this manner (in the preform stage), cannot be ignored simply because the nature of the appellants' invention required that the viscosity be defined in the context of the preform stage.

We observe that the examiner has not taken an inherency position with respect to Shiraishi. Also, Shiraishi is silent about viscosity values of any material. We further note that it is well settled that anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1442, 221 USPQ 385, 388 (Fed. Cir. 1984). Thus, the examiner has failed to establish that Shiraishi expressly or inherently discloses the viscosity characteristics of the appellants' claimed fiber. We therefore **reverse** the rejection of claims 6, 8, and 12 through 14 under 35 U.S.C. § 102(b) as being anticipated by Shiraishi.

II. Conclusion

The examiner's rejection is reversed.

REVERSED

Bradley R. Garris Administrative Patent Judge	)	
Paul Lieberman Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
Beverly A. Pawlikowski Administrative Patent Judge	)	

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